

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
OCD Artesia
APR 19 2018
DISTRICT II-ARTESIA O.C.D.

FORM APPROVED
OMB No. 1004-0137
Expires: July 31, 2010

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. Type of Well ☒ Oil Well ☐ Gas Well ☐ Dry ☐ Other		5. Lease Serial No. NMNM100844	
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.		6. If Indian, Allottee or Tribe Name	
Other		7. Unit or CA Agreement Name and No.	
2. Name of Operator MACK ENERGY CORPORATION E-Mail: JERRY@MEC.COM		8. Lease Name and Well No. RUDOLPH FEDERAL 2H	
3. Address P O BOX 960 ARTESIA, NM 88211-0960		9. API Well No. 30-015-44499-00-S1	
3a. Phone No. (include area code) Ph: 575-748-1288		10. Field and Pool, or Exploratory CROW FLATS	
4. Location of Well (Report location clearly and in accordance with Federal requirements)* At surface SWSW 940FSL 330FWL 32.902988 N Lat, 104.188370 W Lon At top prod interval reported below SESW 925FSL 788FWL At total depth SESW 968FSL 2615FEL		11. Sec., T., R., M., or Block and Survey or Area Sec 21 T16S R28E Mer NMP	
14. Date Spudded 12/01/2017		15. Date T.D. Reached 12/13/2017	
16. Date Completed ☐ D & A ☒ Ready to Prod. 01/12/2018		17. Elevations (DF, KB, RT, GL)* 3605 GL	
18. Total Depth: MD 4000 TVD 1903		19. Plug Back T.D.: MD 3969 TVD	
20. Depth Bridge Plug Set: MD TVD		21. Type Electric & Other Mechanical Logs Run (Submit copy of each) CNL DLL FDC GR	
22. Was well cored? ☒ No ☐ Yes (Submit analysis) Was DST run? ☒ No ☐ Yes (Submit analysis) Directional Survey? ☐ No ☒ Yes (Submit analysis)			

23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
12.250	8.625 J-55	24.0	0	495		922		0	
7.875	5.500 L-80	17.0	0	4000		725		0	

24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.875	1396							

25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) SAN ANDRES	2122	3920	2122 TO 3920	0.410	270	OPEN
B)						
C)						
D)						

26. Perforation Record

Depth Interval	Amount and Type of Material
2122 TO 3920	244BBLS 15% ACID, 2,083BBLS SW, 10,929BBLS X-LINK, 24,569# 100 MESH, 262,294# 30/50 WY

27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
01/25/2018	01/28/2018	24	→	55.0	66.0	855.0	35.0	0.60	ELECTRIC PUMPING UNIT
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→	55	66	855	1200	POW	

28a. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #403000 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

Reclamation due: 07/12/2018

28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

29. Disposition of Gas(Sold, used for fuel, vented, etc.)
SOLD

30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top
					Meas. Depth
GRAYBURG	212	3920	SAND, OIL/GAS/WATER	YATES	342
QUEEN	1100	1118	SAND, OIL/GAS/WATER	SEVEN RIVERS	573
				QUEEN	1074
				GRAYBURG	1598
				SAN ANDRES	1922

32. Additional remarks (include plugging procedure):
1/3-8/2018 PERFORATED 2122-3920' W/ 270 HOLES. FRAC W/ 244 BBLS 15% ACID, 2083 BBLS SW, 10,929 BBLS X-LINK, 24,569# 100 MESH, 262,294# 30/50 WI, 209,574# 30/50 COOL SET.
1/12/2018 RIH W/ 2 7/8" J-55 TUBING @ 1396', SN @ 1418', 2 1/2" X 2" X 16"RTHC PUMP. RIG DOWN

33. Circle enclosed attachments:

- | | | | |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.) | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis | 7. Other: | |

34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

Electronic Submission #403000 Verified by the BLM Well Information System.
For MACK ENERGY CORPORATION, sent to the Carlsbad
Committed to AFMSS for processing by DEBORAH HAM on 02/14/2018 (18DMH0038SE)

Name (please print) DEANA WEAVERTitle PRODUCTION CLERK

Signature _____ (Electronic Submission)

Date 02/01/2018

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ** REVISED ****



Survey Calculation Program

CLIENT: Mack Energy Cooperation

WELL: Rudolph Federal #2

COUNTY: Eddy County

RIG: Silver Oak #10

MWD OPERATORS: Sean Sivannarath / Jared Jackson

DIRECTIONAL DRILLERS: Greg Hickey / Bart Davis

MAGNETIC DECLINATION: 7.32

JOB NUMBER: NM017433MK

Vertical Section Angle:

89.58

Minimum Curvature Calculation

Svy Type	Sur #	Meas. Depth	Inc.	Azm.	T.V.D.	+N / -S	+E / -W	Ver.Sect.	DLS	CL
Surface	TIE IN	845.00	0.90	310.80	844.96	2.49	0.98	0.00	0.00	000 F
MWD	1	884	1.00	315.90	883.95	2.93	0.51	0.53	0.34	39
MWD	2	933	1.00	310.50	932.95	3.52	-0.11	-0.09	0.19	49
MWD	3	981	0.80	283.00	980.94	3.87	-0.76	-0.73	0.98	48
MWD	4	1000	0.90	230.40	999.94	3.80	-1.00	-0.97	3.99	19
MWD	5	1030	1.60	182.50	1029.93	3.23	-1.20	-1.18	4.00	30
MWD	6	1070	2.20	162.60	1069.91	1.94	-1.00	-0.98	2.21	40
MWD	7	1135	2.20	156.50	1134.86	-0.39	-0.12	-0.13	0.36	65
MWD	8	1164	2.00	156.70	1163.84	-1.37	0.30	0.29	0.69	29
MWD	9	1258	1.60	146.40	1257.80	-3.97	1.67	1.64	0.55	94
MWD	10	1327	1.60	137.90	1326.77	-5.48	2.85	2.81	0.34	69
MWD	11	1421	3.00	122.80	1420.69	-7.79	5.80	5.74	1.61	94
MWD	12	1468	8.80	100.70	1467.43	-9.13	10.37	10.30	13.03	47
MWD	13	1515	14.40	95.70	1513.45	-10.37	19.73	19.65	12.09	47
MWD	14	1609	26.00	95.80	1601.52	-13.63	51.96	51.86	12.34	94
MWD	15	1645	31.40	95.40	1633.09	-15.31	69.16	69.05	15.01	36
MWD	16	1703	38.30	91.90	1680.66	-17.33	102.21	102.08	12.38	58
MWD	17	1740	42.50	88.60	1708.83	-17.41	126.18	126.05	12.74	37
MWD	18	1798	47.60	92.20	1749.80	-17.75	167.20	167.07	9.83	58
MWD	19	1833	50.00	93.50	1772.86	-19.06	193.50	193.35	7.40	35
MWD	20	1860	53.20	93.00	1789.62	-20.26	214.62	214.47	11.94	27
MWD	21	1887	57.10	92.30	1805.05	-21.28	236.75	236.59	14.60	27
MWD	22	1919	62.10	90.20	1821.24	-21.87	264.33	264.17	16.62	32
MWD	23	1964	67.80	88.70	1840.29	-21.47	305.08	304.92	13.02	45
MWD	24	1998	71.70	88.10	1852.05	-20.57	336.96	336.80	11.59	34
MWD	25	2031	76.00	87.40	1861.23	-19.33	368.63	368.48	13.19	33
MWD	26	2064	79.80	87.40	1868.15	-17.87	400.85	400.71	11.52	33
MWD	27	2093	83.20	86.60	1872.43	-16.36	429.49	429.36	12.04	29
MWD	28	2187	87.50	88.20	1880.05	-12.12	523.06	522.96	4.88	94
MWD	29	2281	90.60	89.30	1881.61	-10.07	617.01	616.92	3.50	94
MWD	30	2375	92.00	86.80	1879.48	-6.87	710.92	710.86	3.05	94
MWD	31	2469	90.40	90.30	1877.51	-4.50	804.86	804.80	4.09	94
MWD	32	2563	89.80	89.20	1877.34	-4.09	898.85	898.80	1.33	94
MWD	33	2657	90.30	88.90	1877.26	-2.53	992.84	992.79	0.62	94
MWD	34	2743	88.70	87.20	1878.01	0.40	1078.78	1078.76	2.71	86
MWD	35	2872	88.30	86.20	1881.39	7.82	1207.52	1207.55	0.83	129
MWD	36	2967	87.60	87.70	1884.79	12.87	1302.32	1302.38	1.74	95
MWD	37	3061	87.90	87.30	1888.48	16.97	1396.16	1396.25	0.53	94
MWD	38	3155	89.10	88.80	1890.94	20.17	1490.07	1490.18	2.04	94
MWD	39	3250	88.80	87.10	1892.68	23.57	1584.99	1585.12	1.82	95
MWD	40	3344	87.70	89.40	1895.55	26.44	1678.89	1679.04	2.71	94
MWD	41	3438	89.00	88.80	1898.26	27.91	1772.84	1773.00	1.52	94
MWD	42	3469	89.30	88.60	1898.72	28.61	1803.83	1803.99	1.16	31
MWD	43	3530	90.30	88.60	1898.93	30.10	1864.81	1864.98	1.64	61
MWD	44	3626	91.70	88.90	1897.25	32.20	1960.77	1960.95	1.49	96
MWD	45	3719	90.60	90.30	1895.39	32.85	2053.75	2053.93	1.91	93



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MAGNETIC DECLINATION: 7.32

JOB NUMBER: NM017433MK

Vertical Section Angle:

89.58

Minimum Curvature Calculation

Svy Type	Sur #	Meas. Depth	Inc.	Azm.	T.V.D.	+N / -S	+E / -W	Ver.Sect.	DLS	CL
MWD	46	3815	88.70	91.70	1895.97	31.17	2149.72	2149.89	2.46	96
MWD	47	3911	87.80	91.20	1898.90	28.74	2245.65	2245.80	1.07	96
MWD	48	3933	88.10	90.50	1899.69	28.42	2267.63	2267.78	3.46	22
PTB	49	4000	88.10	90.50	1901.91	27.83	2334.59	2334.73	0.00	67

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 745-1233 Fax: (575) 745-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number 30-015-44499		2 Pool Code 14860		3 Pool Name crow flats; san andres	
4 Property Code 319788		5 Property Name RUDOLPH FEDERAL			6 Well Number 2H
7 OGRID No. 13837		8 Operator Name MACK ENERGY CORPORATION			9 Elevation 3605.6

* Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	21	16 S	28 E		940	SOUTH	330	WEST	EDDY

" Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	21	16 S	28 E		968	SOUTH	2615	WEST	EDDY

10 Dedicated Acres 80	11 Joint or Infill	12 Consolidation Code	13 Order No.
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No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

N89°34'32"E 2610.06 FT NW CORNER SEC. 21 LAT. = 32.9153008°N LONG. = 104.1893709°W NMSP EAST (FT) N = 696751.08 E = 585515.16 N/4 CORNER SEC. 21 LAT. = 32.9153439°N LONG. = 104.1808677°W NMSP EAST (FT) N = 696770.41 E = 588124.51 NE CORNER SEC. 21 LAT. = 32.9153885°N LONG. = 104.1723613°W NMSP EAST (FT) N = 696790.52 E = 590734.83 NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83). LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE. VERTICAL DATUM NAVD88. W/4 CORNER SEC. 21 LAT. = 32.9078479°N LONG. = 104.1894149°W NMSP EAST (FT) N = 694039.52 E = 585505.33 E/4 CORNER SEC. 21 LAT. = 32.9079356°N LONG. = 104.1724050°W NMSP EAST (FT) N = 694078.99 E = 590725.55 RUDOLPH FEDERAL 2H ELEV. = 3605.6' LAT. = 32.9029876°N (NAD83) LONG. = 104.1883687°W NMSP EAST (FT) N = 692271.67 E = 585828.04 BOTTOM OF HOLE LAT. = 32.9030249°N LONG. = 104.1809380°W NMSP EAST (FT) N = 692289.46 E = 588110.92 SW CORNER SEC. 21 LAT. = 32.9003988°N LONG. = 104.1894590°W NMSP EAST (FT) N = 691329.38 E = 585495.49 S/4 CORNER SEC. 21 LAT. = 32.9004411°N LONG. = 104.1809468°W NMSP EAST (FT) N = 691348.42 E = 588108.07 SE CORNER SEC. 21 LAT. = 32.9004833°N LONG. = 104.1724399°W NMSP EAST (FT) N = 691367.65 E = 590718.97 SURFACE LOCATION 2615 BOTTOM OF HOLE 330' 940' 968' 589°34'57"W 2613.28 FT S89°34'41"W 2611.60 FT		" OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or released mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Signature _____ Date _____ Deana Weaver Printed Name dweaver@mec.com E-mail Address " SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. DECEMBER 6, 2017 Date of Survey Signature and Seal of Professional Surveyor _____ Certificate Number: FELIMON JARAMILLO PLS 12797 SURVEY NO. 51880
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PO Box 1370
Artesia, NM 88211-1370
(575) 748-1288

December 18, 2017

Mack Energy Corporation
PO Box 960
Artesia, NM 88211-0960

RE: Rudolph Fed #2H
940' FSL & 330' FWL
Sec. 21, T16S, R28E
Eddy County, New Mexico

Dear Sir,

The attached is the Deviation Survey for the above captioned well.

Very truly yours,

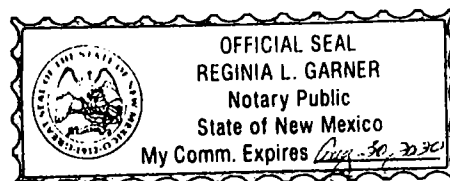
A handwritten signature in cursive script that reads "Chris Graham".

Chris Graham
Asst. Operations Manager

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 18th day of December, 2017.

A handwritten signature in cursive script that reads "Regina L. Garner".

Notary Public

Rudolph Federal #2H

Date	Depth	Deviation	Direction	TVD	Horiz Disp
12/1/2017	132	1.00	73.50		
12/2/2017	254	0.90			
12/2/2017	344	0.50			
12/2/2017	431	0.30			
12/2/2017	490	0.30			
12/4/2017	513	0.30	288.50		
12/4/2017	656	0.40	275.40		
12/4/2017	945	0.90	310.80		
12/4/2017	1034	0.90	184.30		
12/4/2017	1599	0.60	27.20		
12/4/2017	1789	0.60	24.80		
12/4/2017	1978	0.60	315.00		
12/5/2017	2166	0.50	331.30		
12/5/2017	2355	0.40	274.40		
12/5/2017	2736	0.60	238.20		
12/5/2017	2919	0.60	79.80		
12/5/2017	3177	0.70	127.80		
12/8/2017	886	1.00	315.90		
12/8/2017	895	0.90	309.60		
12/8/2017	933	1.00	310.50		
12/8/2017	981	0.80	283.00		
12/8/2017	1000	0.90	230.40		
12/8/2017	1034	1.80	173.90		
12/8/2017	1081	2.30	159.50		
12/8/2017	1135	2.20	156.50		
12/9/2017	1258	1.60	156.70	1258.00	
12/9/2017	1327	1.60	137.90	1326.00	
12/9/2017	1421	3.00	122.80	1474.00	
12/9/2017	1468	8.80	100.70	1467.00	
12/9/2017	1609	26.00	95.80	1601.00	
12/9/2017	1645	31.40	75.40	1633.00	
12/9/2017	1798	47.60	92.20	1747.00	
12/9/2017	1860	53.20	93.00		
12/9/2017	1887	97.10	57.10		
12/9/2017	1903	38.30	91.90	1688.00	
12/9/2017	1919	68.10	90.20		
12/10/2017	1964	67.80	88.70	1840.00	304.90
12/10/2017	1998	71.90	88.10	1852.00	336.80
12/10/2017	2031	76.00	87.40	1861.00	358.40
12/10/2017	2064	79.80	87.40	1868.00	400.70
12/10/2017	2187	87.50	88.20	1880.00	
12/10/2017	2281	90.60	87.30	1881.00	
12/10/2017	2385	92.00	86.80		

Date	Depth	Deviation	Direction	TVD	Horiz Disp
12/10/2017	2469	90.40	90.30	1877.00	
12/10/2017	2563	89.80	89.20	1877.00	
12/11/2017	2743	88.70	87.20	1878.00	1078.00
12/11/2017	2872	88.30	86.20	1881.00	1207.00
12/11/2017	2967	87.60	87.70	1884.00	1302.00
12/11/2017	3061	87.90	87.30	1888.00	1396.00
12/11/2017	3155	89.10	88.80	1890.00	1490.00
12/11/2017	3250	88.80	87.10	1892.00	1585.10
12/11/2017	3344	87.70	89.40	1895.00	1679.00
12/11/2017	3438	89.00	88.80	1898.20	1773.00
12/13/2017	3469	89.30	88.60	1898.00	18033.00
12/13/2017	3530	90.30	88.60	1898.00	1864.00
12/13/2017	3530	90.30	88.60	1898.00	1864.00
12/13/2017	3719	90.60	90.30	1895.00	2053.00
12/13/2017	3815	88.70	91.20	1893.90	
12/13/2017	3911	87.80	91.20	1898.90	2045.80